WATER SUPPLY OUTLOOK FOR NEVADA

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE
Collaborating with
NEVADA DEPARTMENT of CONSERVATION
and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
JAN. 1, 1974

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Cover Photo: Snow Surveyors near Ship Creek, Alaska snow course.

SCS PHOTO A-272-11

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 511 N. W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and tor British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

U.S. DEPARTMENT of AGRICULTURE
CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY
SOIL CONSERVATION SERVICE

WATER SUPPLY OUTLOOK FOR NEVADA

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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WATER SUPPLY OUTLOOK FOR NEVADA

NEVADA'S 1974 WATER SUPPLY OUTLOOK IS "NEAR TO SLIGHTLY ABOVE AVERAGE" AT THIS EARLY WINTER DATE. JANUARY 1 SNOW MEASUREMENTS MADE AT A FEW KEY SNOW COURSE LOCATIONS INDICATE THIS YEAR'S SNOWPACK IS 40 PERCENT ABOVE AVERAGE FOR THIS TIME OF YEAR ON THE EAST SLOPE OF THE SIERRA RANGE, AND RUNNING ABOUT 115 PERCENT OF AVERAGE IN THE UPPER OWYHEE AND HUMBOLDT DRAINAGES.

RESERVOIR STORAGE HAS INCREASED SINCE LAST FALL, AND IN AGGREGATE THE PRINCIPAL IRRIGATION RESERVOIRS THROUGHOUT NEVADA CONTAIN 142 PERCENT OF AVERAGE STORAGE FOR THIS DATE.

Limited January 1 snow surveys on the Truckee, Carson and Walker River drainages indicate this year's snowpack is running about 40 percent greater than normal for this date. However, high winds experienced so far this winter have left many mountain ridges and windward hillsides nearly bare of snow.

Snow conditions in the upper Owyhee and Humboldt drainages are also slightly above normal at this early date. This year's snowpack is uniform throughout the elevation range, with both the high and low elevations in the basins above normal.

Soil moisture is good over most of Nevada. Measurements indicate most watersheds are wetter than normal as a result of the widespread December storms.

Reservoir storage is very good throughout the state. Storage is 10 percent better than last year at this time. The Truckee-Carson River drainages have 140 percent of average storage, while the Walker is slightly less at 121 percent. Rye Patch contains 109,000 acre-feet, which is 132 percent of average.

Average snowfall for the remainder of the season, coupled with good soil moisture and above average reservoir storage, points to an average to better than average water supply for most Nevada water users next summer.

February 1 snow surveys will cover a wide area. By that time more than half of the season's total snow water will have been deposited, giving a much better indication of the summer's water supply outlook.

SNOW COURSE MEASUREMENTS

DRAINAGE BASIN and/or SNOW COURSE NAME	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (inches)	Water Content (inches)	Last Year	Average +
OWYHEE RIVER					
Big Bend	1/4	23	5.9	3.9	3.0*
Gold Creek	1/4	17	3.9	1.7	1.9*
Taylor Canyon	1/2	14	2.6	3.2	1.8*
HUMBOLDT RIVER					
Fry Canyon	1/4	22	4.9	4.8	3.0*
Rodeo Flat	1/4	21	4.8	4.7	2.6*
Tremewan Ranch	1/2	6	1.4	2.3	0.8
LAKE TAHOE-TRUCKEE RIVER					
Donner Summit	3/3	63	23.1	11.9	-
Fordyce Lake	1/2	63	26.4	13.0	-
Freel Bench	12/28	30	8.4	4.3	6.3*
Furnace Flat	1/2	65	28.3	15.4	-
Glenbrook #2	12/30	19	5.2	3.1	4.3*
Hagans Meadow	12/28	41	10.8	7.4	8.3*
Heavenly Valley	12/28	45	15.2	11.0	-
Independence Camp	12/26	36	10.6	8.3	-
Independence Creek	12/26	27	7.3		-
Marlette Lake	12/28	41	12.6	8.0	-
Mount Rose Ski Area	12/27	73	25.2	17.8	-
Richardsons #2	12/30	30	8.9	7.0	-
Tahoe City Alternate	1/2	22	7.1	3.6	-
Tahoe City Cross	1/2	35	11.2	5.9	-
Tahoe City	**			2.5	-
Upper Truckee	12/28	23	7.2	3.3	5.0*
Ward Creek #2	12/27	74	24.0	12.5	15.0*
Ward Creek #3	12/27	73	20.5	10.1	-
CARSON-WALKER RIVERS					
Sonora Pass	12/26	42	13.3	8.7	9.5*
Virginia Lakes	12/27	24	6.7	6.9	6.9*
Virginia Lakes Ridge	12/27	32	8.5	6.7	-
SNAKE RIVER					
Bear Creek	12/31	36	9.2	9.8a	7.8*
Goat Creek	12/27	33	8.3	10.2a	6.4*
Hummingbird Springs	12/31	40	10.8	10.2a	7.6*
Pole Creek Ranger Station	12/27	36	9.7	10.2	7.7*
Red Point	12/31	6	1.6	2.8a	4.4*
76 Creek	12/30	30	8.1a	6.2a	-

**Destroyed by Snowmobile Traffic

NOTE:
*All averages based on 1958–72, 15 year period. Forecast period is April 1 through July 31 unless otherwise noted. a–Aerial marker; water content estimated. * 1958–72 adjusted average.*

PEAK FLOWS (MAXIMUM MEAN DAILY) (Av. flow for 24 hrs. on day of greatest flow)

FORECAST POINT	PEAK FLOW (SECOND FEET)	
	Forecast Range	Average +

Peak flow forecasts not issued until
March 1, 1974

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value

Low flow forecast not issued until
March 1, 1974

SOIL MOISTURE MEASUREMENTS

STATION	Profile (Inches)		Soil Moisture (Inches)		
	Depth	Capacity	Date	This Year	Average +
OWYHEE-HUMBOLDT BASIN					
Big Bend	48	16.7	1/4	14.4	14.5
Rodeo Flat	42	11.0	1/4	7.4	9.1
Taylor Canyon	48	15.1	1/2	10.6	11.8
TAHOE-TRUCKEE BASIN					
Independence Camp	34	6.1	est.	4.2	3.6*
Marlette Lake	50	3.7	est.	2.4	2.0*
WALKER BASIN					
Sonora Pass	48	8.3	12/26	6.1	6.7*
Virginia Lakes	40	5.0	12/27	2.8	2.0*

* Adjusted average

+ 1958-1972 period.

RESERVOIR STORAGE (Thousand Acre Feet) as of January 1, 1974

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average+
Owyhee	Wild Horse	72	Delayed	57	16
Lower Humboldt	Rye Patch	157	109	141	82
Colorado	Mohave	1,810	1,569	1,494	1,612
Colorado	Mead	27,217	19,737	18,645	17,429
Tahoe	Tahoe	732	560	454	394
Truckee	Boca	41	32	29	12
Truckee	Stampede	220	173	123	*
Truckee	Prosser ***	30	8	9	8**
Carson	Lahontan	291	201	197	158
West Walker	Topaz	59	35	21	28
East Walker	Bridgeport	42	28	18	24

* Storage began August 1, 1969
** Adjusted average
*** Flood control use allocation of 20,000 ac. ft. between November 1 and April 10.

TOTAL RESERVOIR STORAGE (Thousand Acre Feet)

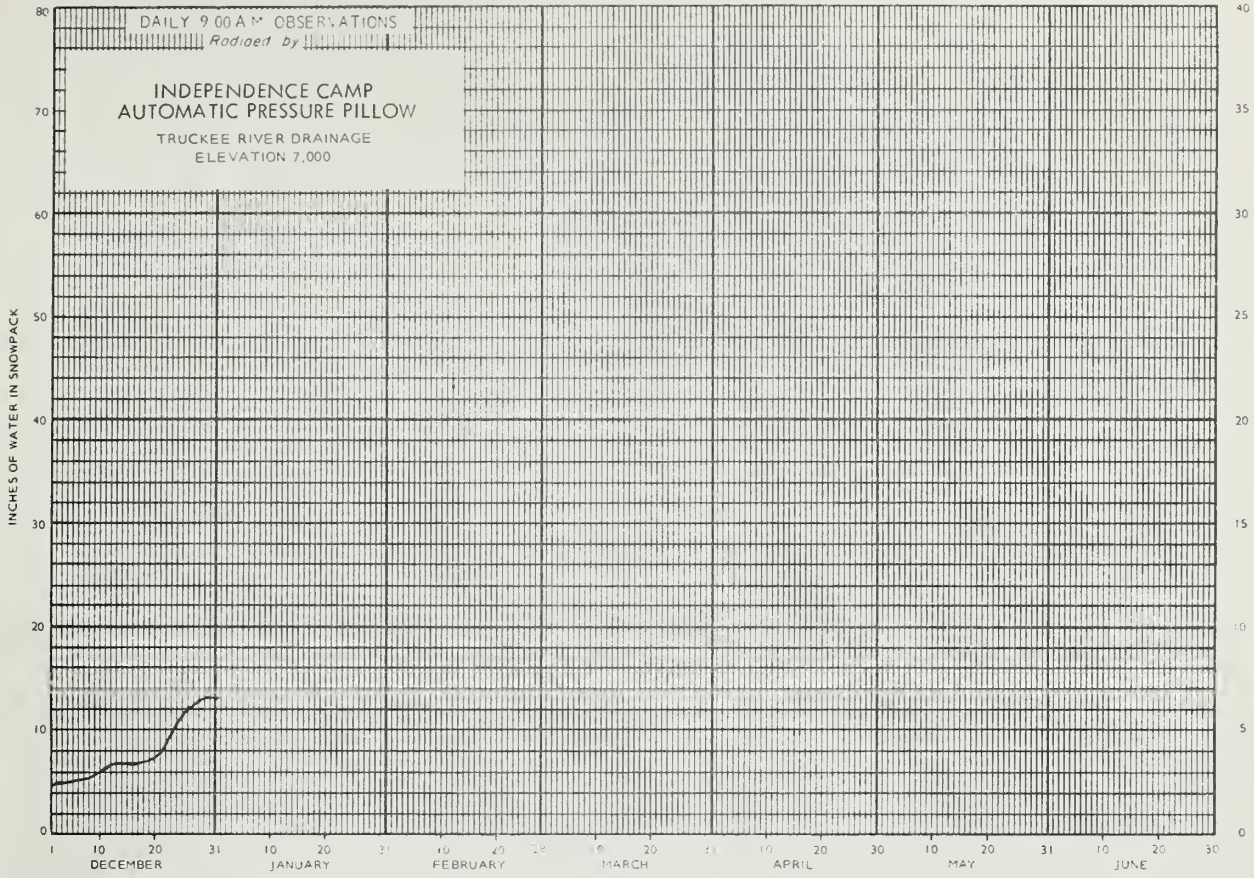
MONTH	This Year	Last Year	Average +
October 1	820	867	718
January 1	1,015	917	714
February 1		1,025	782
March 1		1,093	843
April 1		1,153	912
May 1		1,194	937

+ 1958-1972 period.

The above data developed from Wild Horse, Rye Patch, Tahoe, Boco, Lahontan, Topaz, and Bridgeport Reservoirs in 1,000 Acre-Feet.

TOTAL USABLE CAPACITY 1,394

U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION



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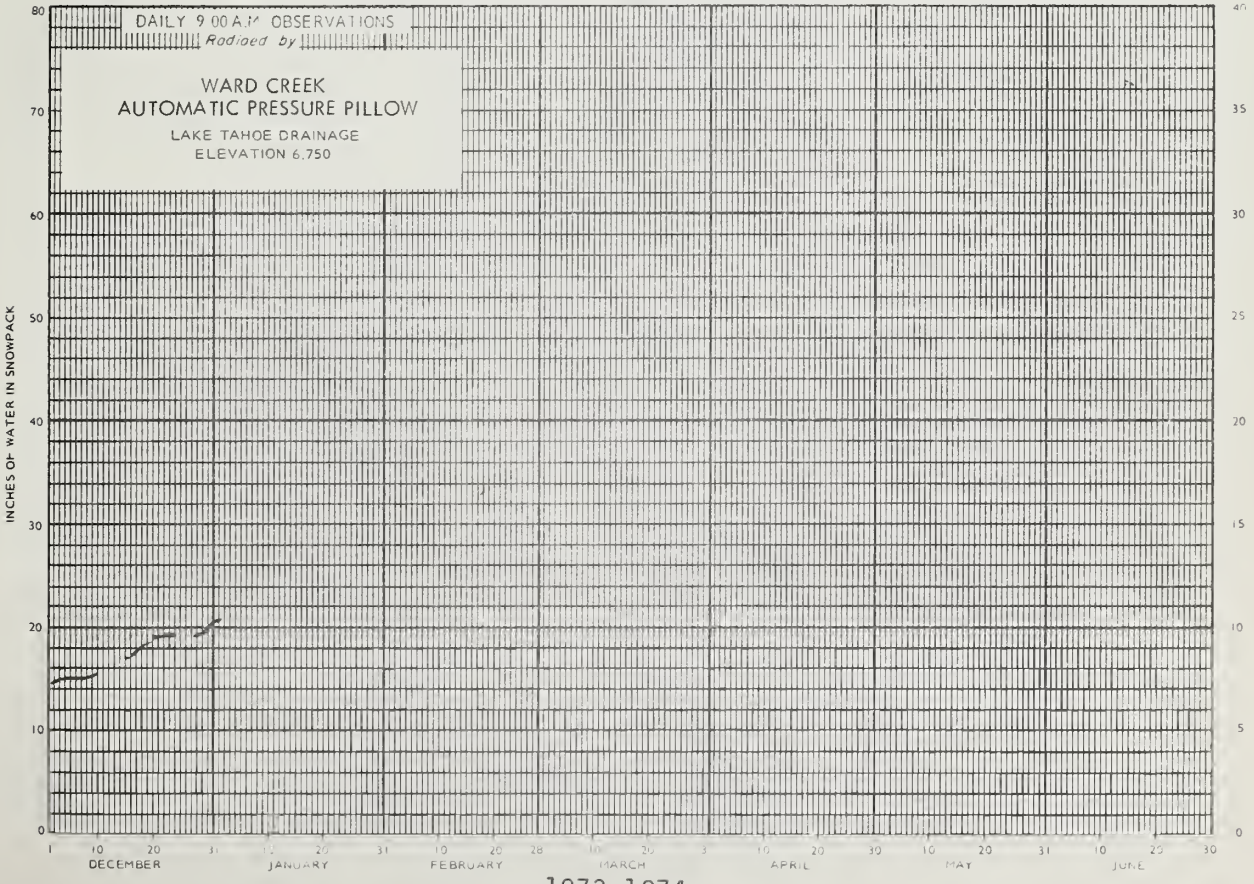

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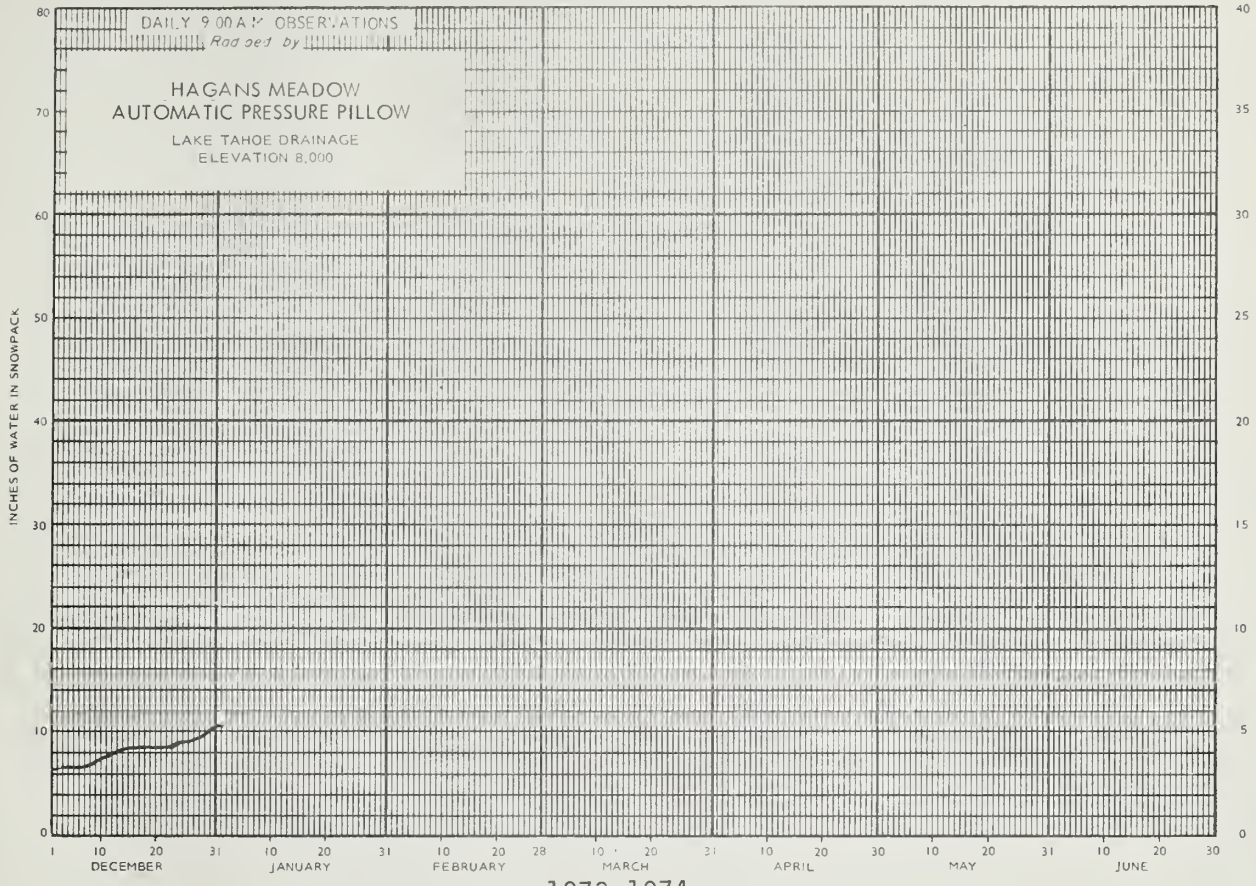

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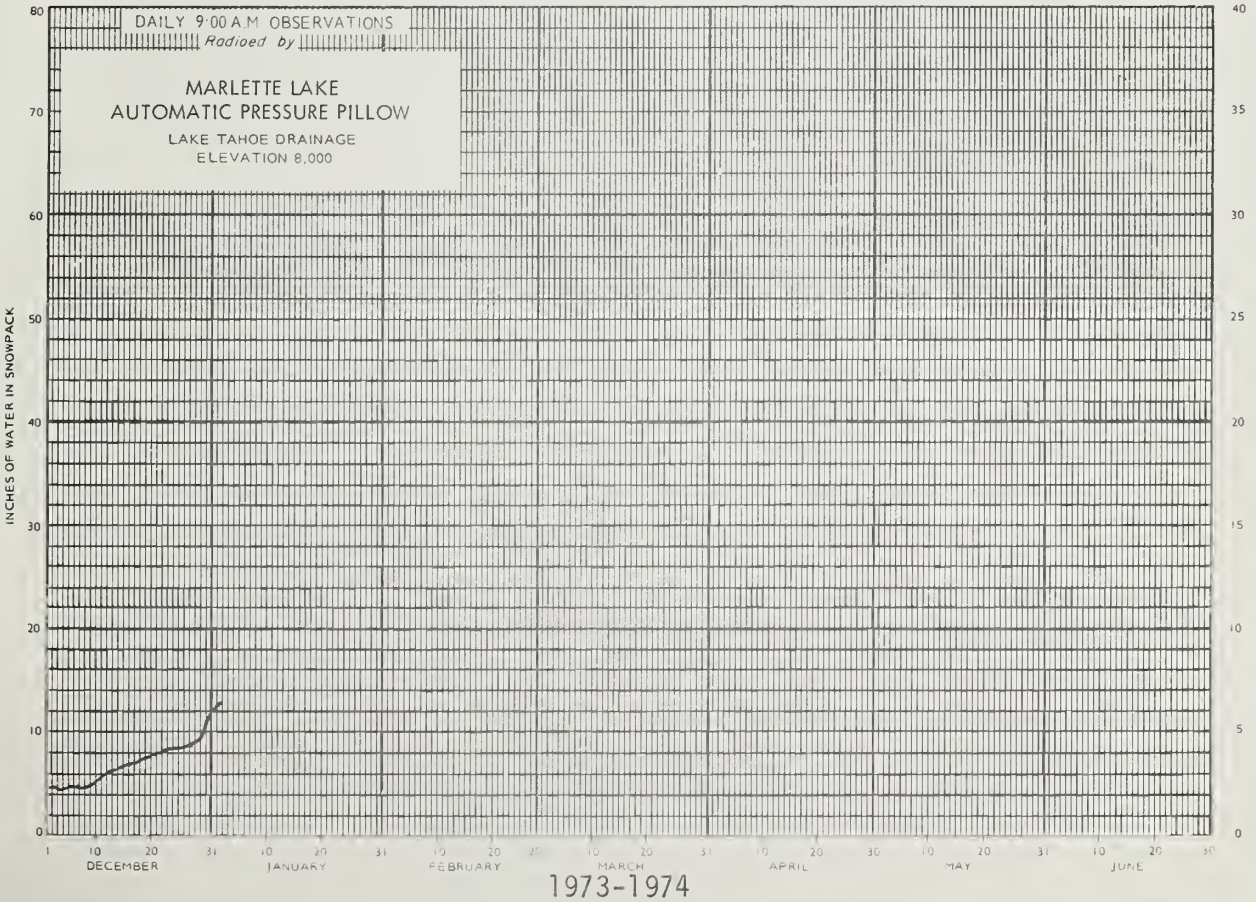

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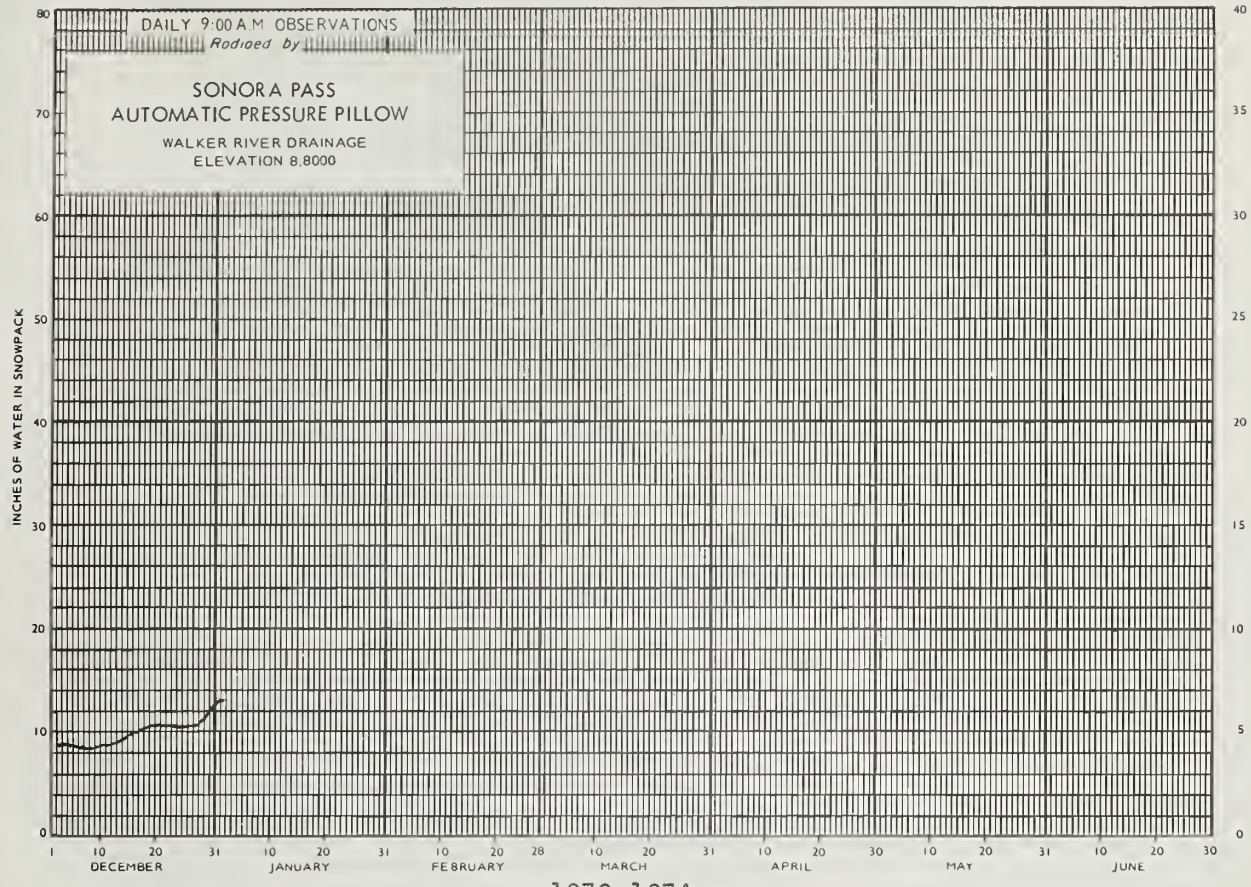

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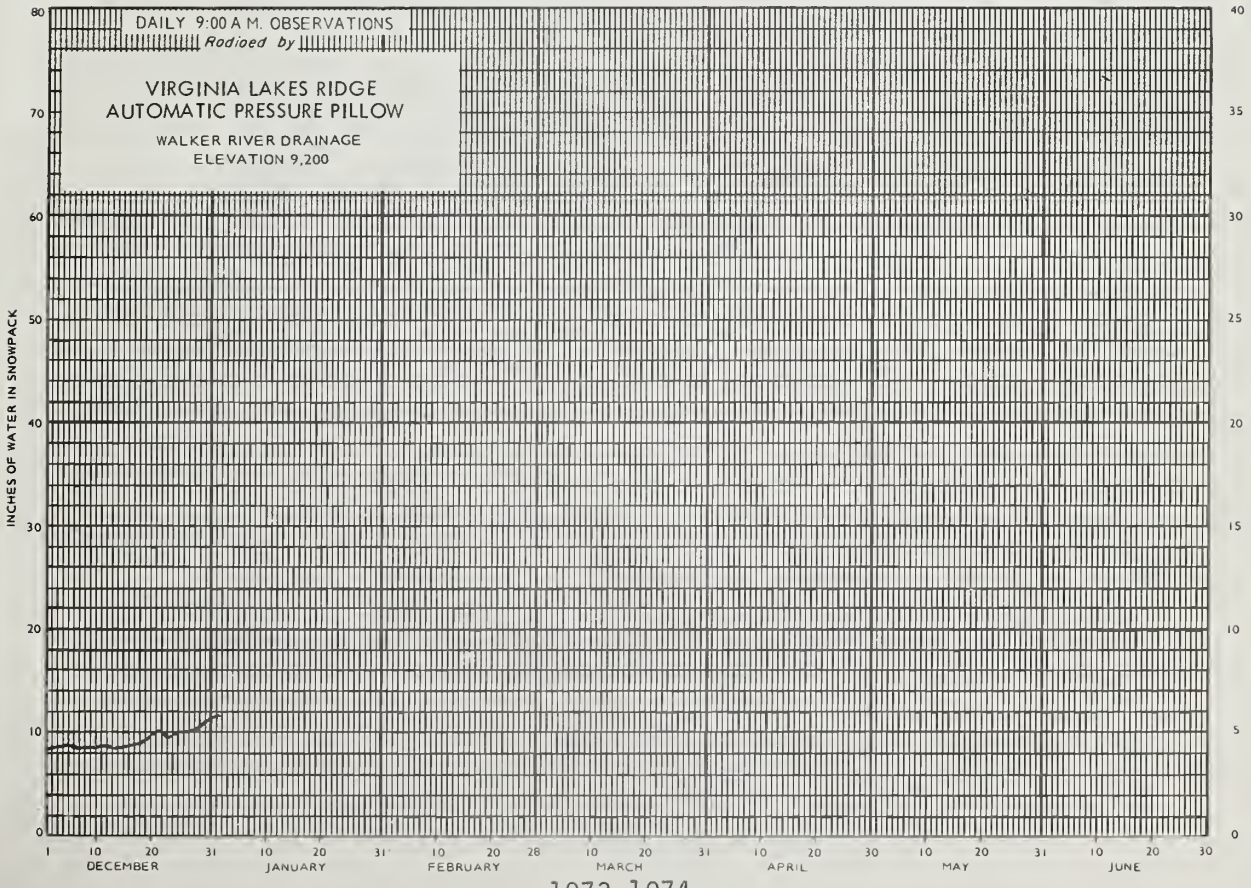

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Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL
- Agricultural Research Service
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Soil Conservation Service
- U. S. District Court - Federal Water Master
- NOAA, National Weather Service

STATE
- California Cooperative Snow Surveys
- California Department of Parks and Recreation
- California Department of Water Resources
- Colorado River Commission of Nevada
- Idaho Cooperative Snow Surveys
- Nevada Association of Conservation Districts
- Nevada Department of Conservation & Natural Resources
  - Division of Water Resources
  - Nevada State Forester
- Oregon Cooperative Snow Surveys
- Utah Cooperative Snow Surveys
- White Mountain Research Station, Univ. of California

PRIVATE
- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas and Electric Company
- Pershing County Water Conservation District
- Sierra Pacific Power Company
- Truckee-Carson Irrigation District
- Walker River Irrigation District
- Washoe County Water Conservancy District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

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SOIL CONSERVATION SERVICE
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